

### **ABSTRACT**

A CMOS imager system comprising an active pixel sensor having an access supply which provides distributed feedback, a column buffer (having gain and FPN suppression), and an A/D converter co-located with the sensor such that the effective  
5 transmission path between the column buffer (or optional analog PGA) and the A/D converter acts as a resistor, rather than a reactance. The system may further include both an analog gain amplifier stage and a digital programmable amplifier stage.